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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,546	06/25/2003	Wei-Yi Lin	10112271	5452
34283	7590	06/15/2006	EXAMINER	
QUINTERO LAW OFFICE 1617 BROADWAY, 3RD FLOOR SANTA MONICA, CA 90404			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/603,546	LIN ET AL.	
	Examiner	Art Unit	
	Elizabeth A. Rielley	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-9 and 14-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9 and 14-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Response to Amendment***

Amendment filed 3/31/06 has been entered and considered by the Examiner. Claims 10-13 have been canceled. Currently, claims 1, 2, 5-9, and 14-29 are pending in the instant application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5-9, 14-20, 23, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Namikawa et al (US 5600203).

In regard to claim 1, Namikawa et al ('203) teach a method of repositioning display spacers using inductive attraction, comprising: providing magnetic spacers (113; figure 12; column 10 lines 57-60; column 4 line 61 to column 5 line 10); providing an inductive chuck to attract the spacers (114 on 7; column 10 line 66 to column 11 line 7); providing a substrate (2); using the inductive chuck to position the spacers in desired positions on the substrate (figures 12a-12g; column 10 line 43 to column 11 line 35).

In regard to claim 2, Namikawa et al ('203) teach the spacers are spacers of a field emission display (claim 5).

In regard to claim 5, Namikawa et al ('203) teach the magnetic forces generate magnetic forces through natural magnets, artificial magnets, electromagnetic systems, or a combination thereof (column 10 line 66 to column 11 line 7).

In regard to claim 6, Namikawa et al ('203) teach the spacers are made of magnetic materials (113; column 11 lines 3-7).

In regard to claim 7, Namikawa et al ('203) teach the spacers are completely comprised of magnetic materials (113; column 11 lines 3-7).

In regard to claim 8, Namikawa et al ('203) teach the spacers (6) are partially comprised of magnetic materials (due to 113; column 11 lines 3-7).

In regard to claim 9, Namikawa et al ('203) teach the spacers (6) have two or more layers (6 and 113; see figure 12), at least one of which is made of magnetic materials (113; column 11 lines 3-7).

In regard to claim 14, Namikawa et al ('203) teach the spacers are made of metal, alloy, dielectric, ceramic, or glass materials, or a combination thereof (column 11 lines 3-7).

In regard to claim 15, Namikawa et al ('203) teach the spacers are cylindrical, X-, I-, L-, or bar-shaped or a combination thereof (see figure 2).

In regard to claim 16, Namikawa et al ('203) teach the shapes of spacers have two or more cross points, comprising comb, lattice, grid, or zig-zag shapes or a combination thereof (see figure 12b).

In regard to claims 17-20, Namikawa et al ('203) teach the substrate is an anode plate and cathode plate (column 11 lines 43-47) of a field emission flat panel display (column 2 lines 6-9).

In regard to claim 23, Namikawa et al ('203) teach the magnetic force lifts the spacer and brings them into contact with the inductive chuck (column 10 line 66 to column 11 line 7).

In regard to claim 24, Namikawa et al ('203) teach the spacers are released from the inductive chuck (7) by interrupting the magnetic force (column 11 lines 14-21).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al (US 5600203) in view of Yakou et al (US 5855637).

Namikawa et al ('203) disclose all the limitations set forth, as described above, except an alignment step to position the substrate, wherein the alignment step comprises use of Charge-Coupled Device (CCD) and alignment marks. Yakou et al ('637) teaches the use of Charge-Coupled Device (CCD) (36A and B; figure 1; column 8 lines 35-45) and alignment marks (2b and 2c; figure 9; column 11 lines 49-57) in an alignment step of manufacturing a display in order to form a stronger bond between the spacer and substrate (column 4 line 66 to column 5 line 4). It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the method of positioning spacers of Toyoda/Barton with the alignment step of Yakou et al ('637). Motivation for combining would be to form a stronger bond between the spacer and substrate.

Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al (US 5600203) in view of Guenther et al (US 6949880).

In regard to claim 25, Namikawa et al ('203) teach a method of repositioning display spacers using inductive attraction, comprising: providing spacers (113; figure 12; column 10 lines 57-60; column 4 line 61 to column 5 line 10); providing an inductive chuck to attract the spacers (114 on 7; column 10 line 66 to column 11 line 7); providing a substrate (2); using the inductive chuck to position the spacers in desired positions on the substrate (figures 12a-12g; column 10 line 43 to column 11 line 35). Namikawa et al ('203) are silent regarding the limitation of the use of electrostatic force. Guenther et al ('880) teach the use of electrostatic force to move spacers (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 26, Namikawa/Guenther teach all the limitations set forth, as described above. Namikawa also teaches that an inductive force lifts the spacer and brings them into contact with the inductive chuck (column 10 line 66 to column 11 line 7). Guenther teaches the inductive force to be the electrostatic force (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 27, Namikawa/Guenther teach all the limitations set forth, as described above. Namikawa also teaches that the spacers are released from the inductive chuck (7) by interrupting the inductive force (column 11 lines 14-21). Guenther teaches the inductive force to be the electrostatic force (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 28, Namikawa/Guenther teach all the limitations set forth, as described above. Namikawa also teaches that spacers (6) have two or more layers (6 and 113; see figure 12), at least one of which is made of materials that are inductive (113; column 11 lines 3-7). Guenther teaches the inductive force to be the electrostatic force (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of

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the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 28, Namikawa et al ('203) teaches the spacers (6) are made of metal, alloy, dielectric, ceramic, or glass materials, or a combination thereof (column 11 lines 3-7).

### *Response to Arguments*

Applicant's arguments with respect to claims 1, 2, 5-9, and 14-29 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained



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from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



*Elizabeth Rielley*

**Examiner**  
**Art Unit 2879**

  
**MARICELI SANTIAGO**  
**PRIMARY EXAMINER**